

PROBLEM 1:

- (a) cc is the compile step
- (b) -o prog says to name the executable "prog"
- (c) runner% **prog**
- (d) runner% **prog > outfile**

PROBLEM 2:

```
runner% cat exam1_2.c
#include <stdio.h>

double ftoc(double F);

void main(void)
{
    double F, C;
    scanf("%lf", &F);
    C = ftoc(F);
    printf("Fahrenheit: %.2f = Centigrade: %.2f\n",
        F, C);
}

double ftoc(double F)
{
    double C;
    C = (5.0/9.0)*(F - 32.0);
    return C;
}

runner% cc -o exam1_2 exam1_2.c
runner% exam1_2
212
Fahrenheit: 212.00 = Centigrade: 100.00
runner% exam1_2
32
Fahrenheit: 32.00 = Centigrade: 0.00
runner% exam1_2
-40
Fahrenheit: -40.00 = Centigrade: -40.00
runner% exam1_2
98.6
Fahrenheit: 98.60 = Centigrade: 37.00
```

```
runner% cat exam1_2.2.c
/* Another version */
#include <stdio.h>
double ftoc(double F);
void main(void)
{
    double F;
    scanf("%lf", &F);
    printf("Fahrenheit: %.2f = Centigrade: %.2f\n",
        F, ftoc(F));
}

double ftoc(double F)
{
    return (5.0/9.0)*(F - 32.0);
}

-----
PROBLEM 3:
runner% cat exam1_3.c
#include <stdio.h>
```

```
void main(void)
{
    int n;
    int i = 1;
    scanf("%i", &n);
    while (i <= n) {
        printf("%i ", i);
        i = i + 2;
    }
    printf("\n");
}

runner% cc -o exam1_3 exam1_3.c
runner% exam1_3
27
1 3 5 7 9 11 13 15 17 19 21 23 25 27
runner% exam1_3
28
1 3 5 7 9 11 13 15 17 19 21 23 25 27
runner%
```

PROBLEM 4:

```
runner% cat exam1_4.c
#include <stdio.h>
```

```
void main(void)
```

```
{
```

```
    int ave;
```

```
    char grade;
```

```
    while (scanf("%i", &ave) != EOF) {
```

```
        if (ave > 100) grade = 'N';
```

```
        else if (ave >= 90 && ave <= 100) grade = 'A';
```

```
        else if (ave >= 80 && ave <= 89) grade = 'B';
```

```
        else if (ave >= 70 && ave <= 79) grade = 'C';
```

```
        else if (ave >= 60 && ave <= 69) grade = 'D';
```

```
        else if (ave >= 0 && ave <= 59) grade = 'F';
```

```
        else if (ave < 0) grade = 'N';
```

```
        printf("Ave:%3i, Grade: %c\n", ave, grade);
```

```
    }
```

```
}
runner% cc -o exam1_4 exam1_4.c
```

```
runner% exam1_4
```

```
110
```

```
Ave:110, Grade: N
```

```
101
```

```
Ave:101, Grade: N
```

```
100
```

```
Ave:100, Grade: A
```

```
90
```

```
Ave: 90, Grade: A
```

```
89
```

```
Ave: 89, Grade: B
```

```
80
```

```
Ave: 80, Grade: B
```

```
79
```

```
Ave: 79, Grade: C
```

```
70
```

```
Ave: 70, Grade: C
```

```
69
```

```
Ave: 69, Grade: D
```

```
60
```

```
Ave: 60, Grade: D
```

```
59
```

```
Ave: 59, Grade: F
```

```
30
```

```
Ave: 30, Grade: F
```

```
0
```

```
Ave: 0, Grade: F
```

```
-1
```

```
Ave: -1, Grade: N
```

```
(ctrl-D entered)
```

```
runner% cat exam1_4.2.c
```

```
/* Another version */
```

```
#include <stdio.h>
```

```
void main(void)
```

```
{
```

```
    int ave;
```

```
    char grade;
```

```
    while (scanf("%i", &ave) != EOF) {
```

```
        if (ave > 100) grade = 'N';
```

```
        else if (ave >= 90) grade = 'A';
```

```
        else if (ave >= 80) grade = 'B';
```

```
        else if (ave >= 70) grade = 'C';
```

```
        else if (ave >= 60) grade = 'D';
```

```
        else if (ave >= 0) grade = 'F';
```

```
        else grade = 'N';
```

```
        printf("Ave:%3i, Grade: %c\n", ave, grade);
```

```
    }
```

```
}
```